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LITHOTRIPSY; *Author.*

OR, THE

BREAKING OF STONE IN THE BLADDER.

BY

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DUBIAM SALUTEM QUI DAT AFFLICTUS, NEGAT.—*Sen.*

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INTRODUCTION.

DURING the last fifteen years I have devoted the most of my time to the study and treatment of DISEASES OF THE URINARY ORGANS. Through the whole of that period I have endeavoured to convince my professional brethren of the advantages which LITHOTRIPSY had over LITHOTOMY, still there are many surgeons who seem disposed to doubt its applicability. It is in view of this that I publish this little pamphlet, which is an abstract of my lectures delivered while holding the Professorship of Surgery in the Medical College of Ohio, and the College of Physicians and Surgeons in this City. I shall content myself for the present with this brief history of the subject, inasmuch as I shall soon be able to offer to the profession a more extended essay. I have not described the mode of performing the operation as it would be of no use without entering more largely into the sub-

ject than is now my purpose. Besides the whole history of this operation shows that its performance requires a nicety in manipulation and a familiarity with the instruments, which comes only of long experience. Although the operation appears simple, and easy of performance : the number who have succeeded in it is very small indeed. I believe that I can claim to have had as large an experience in stone as any surgeon of my date. The bulk of all the operations for stone in the Western country was divided between DR. DUDLEY, of Lexington, and myself. I can claim, too, as great success as any who has cut for stone in this country, but I always felt uncertain as to the result in the most favourable circumstances. Therefore, as soon as I heard of this operation of LITHOTRIPSY, I went to Paris to test its practicability by personal observation ; since that time I have practised LITHOTRIPSY with gradually increasing success. I know that I could now manage many of the cases with ease, which in the early part of my LITHOTRIPIC practice I abandoned to LITHOTOMY.

HISTORY OF THE OPERATION.

THE extraction of Stone from the bladder through the urethra, seems to have been thought of, and even practiced in certain cases, in the remotest periods of which we have any reliable records. The Egyptians were in the habit of dilating the urethra, and then by suddenly expelling the fluids in the bladder, force the stone into the urethra, whence by manipulation it was withdrawn. The Arabs performed the same operation with the addition, that they used instruments to withdraw the stone from the urethra. These operations were applicable only to those cases in which the Stone was small. LITHOTOMY, after the institution of these operations was uniformly adopted, although the attention of the older surgeons seems always to have been directed to the feasibility of breaking up Calculi. As early as 1519, ALSAHARAVIUS speaks of an instrument for breaking friable stones. The instrument used by SANCTORIUS, about 1626, was a three branched one, so constructed, that the stone, when grasped by its prongs, should be withdrawn with it. This instrument does not seem to have been intended for any other cases than

those in which the stone was small; and differed from those used by the Arabian surgeons only in this, that it siezed the calculus *in the bladder* in place of *the urethra*. It is more than probable, however, that this was the first straight instrument introduced into the bladder; unless, indeed, we attach credence to the account given of straight instruments found in the officina of the surgeons in the excavated ruins of Herculaneum and Pompeii. The very first instance on record of the comminution of an urinary calculus in the bladder, is that in which a monk of the order of Citeaux, in his own case used a stilet passed into the bladder through a canula, and armed with a chisel-shaped termination. He broke up the stone by directing the point of this instrument against it, and striking on the stilet with a small hammer.

The next case is that of COL. MARTIN, a French officer in India, who introduced a curved sound, the convex surface of which was rough like a file; and catching the stone at the neck of the bladder, he gradually destroyed it. In 1801, DR. DARWIN in his *Zoonomia*, suggested an instrument based upon that used by Colonel Martin. In 1813, a Bavarian Physician, DR. GREISHUISEN, published a description of some instruments intended to comminute stones in the urinary bladder, though his principal object seems to have been to facilitate the application of some solvents. These weré, first, a tube for directing the solvent fluid directly upon the stone. Second, a tube with a trepan enclosed to perforate the stone, so as to present as large a surface as possible to the action of the dissolving agent. Third, a tube enclosing a loop of wire to grasp the stone, and a lance-shaped wire within to break

it. And fourth, what he called his stone-cutter, which consisted of two blades within the tube, so arranged as to cut the stone as they were withdrawn. MR. ELDERTON, an English surgeon, proposed an instrument in 1819, but it was curved and therefore considered inapplicable. Up to this date, we have no evidence of cures having been effected by breaking the stone in the bladder, except in the two instances of the monk of Citeaux and Colonel Martin, although a vast number of instruments were projected.

The history of surgery nowhere presents the unsuccessful exercise of so much ingenuity; and nothing could have enlisted such untiring zeal, but the magnitude of the good to be effected by the successful issue which their labors had in view. Useful Surgical instruments are those which are simple in their construction, and have a plain and definite office to perform. But the operation of Lithotripsy is so complex, and in its performance, there are so many indications to be fulfilled, that an instrument to meet them must necessarily be one of rare ingenuity.

“Lithotripsy is not now nor ever will be, we are sure, a process consisting of, or depending upon the use of one instrument or apparatus; otherwise its resources would be scanty indeed. Its proper performance depends upon the several instruments and apparatuses, combining together for the desired result, varied and modified at the moment, according to the emergency of the case. The Lithotriptic apparatus must have a quadruple object in view: to avoid giving pain—to ascertain the size and form of the bladder

and stone—to grasp and reduce the latter to atoms—and to combine with the very act of comminution, the faculty of safety and rapidity in bringing away the calculus. Nor is it less important to place the patient in a convenient position to the operator and himself, during the application of the remedy. This is found very simple, easy, and rapid, by a competent person: but as we have said before, it is a study that, in its present state, requires a nearly exclusive attention, and to perfect it, persons particularly gifted with mechanical genius, manual dexterity and tact, as well as anatomical and surgical knowledge.”

The above remarks we copy from Belinaye's *Compendium*, to which we are indebted for much of the history of that science. We cannot forbear giving the following passage from M. Sanchou, published in 1830:

“From the descriptions given of the process of Lithotripsy, it appears so simple and easy that there is no patient who does not feel inclined to be operated upon, nor a medical man who does not think himself capable of performing the operation. Hence the number of instruments which have been sent, some into the provinces, some abroad; thence also, the numerous attempts which have been made—the numerous errors which have been committed, even by surgeons, and men of great merit: for it deserves remark, that almost all the chief surgeons of the Parisian hospitals have tried Lithotripsy, and that all have failed; which proves that this operation is not so easy as one imagines. Since three years above all, more than six thousand apparatuses of Lithotripsy have been

sent from Paris; as much to the provinces as to foreign countries; and, however, a few instances of success only are known.

To perform this operation, besides cleverness and address, a great deal of practice is required, which is obtained only with time, and by handling unceasingly the instruments which are intended for it. The working of these is so difficult, although apparently very simple, that one ought almost to have made them oneself to know them well; or to identify oneself so much with them, that the fingers convey themselves unaided upon the point which it is necessary to set in motion during the operation.

So marvellous is the dexterity of some few persons who have devoted themselves exclusively to Lithotripsy, that we would of all things refrain from judging of the value of their apparatus by their own success. In their hands it would appear that every instrument would achieve a triumph; and if, independent of the success of the inventor, we did not find that the instruments we shall laud at a future chapter of this work, had not inherent qualities, we should not have praised them so fervently."

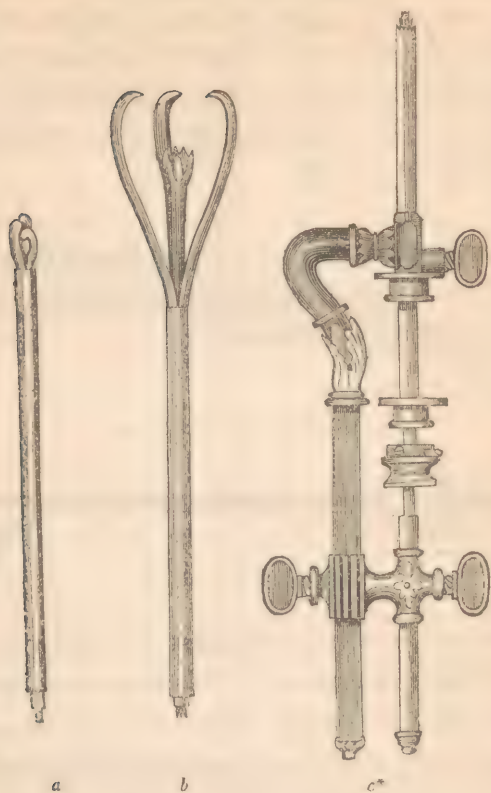
We come now to the year 1822, when such a degree of perfection was attained in the construction of instruments, that it was thought they might be applied successfully to the treatment of stone, though still only in cases where the calculus was small and soft. In this year, AMUSSAT presented an instrument nearly similar to the "stone-cutter" of

Gruithusen, differing from that instrument in this, that it was intended to crush in place of cutting the stone. M. Le Roy at the same time constructed an instrument, based also upon a suggestion of Gruithusen, so arranged as to consist of a tube enclosing two watch springs, which, being opened in the bladder, were intended to enclose the stone and hold it, so that the trephine could be applied to break it down. In connexion with this was also used the winch, which is seen in the plate of CIVIALE's instrument, so as to allow of the use of a bow in drilling. But the most useful improvement made by M. Le Roy, was the application of the three-branched bullet extractor of ALPHONSE FERRI. This forceps with the addition of the rod of his own construction, and the winch, used with his other instrument, is almost identical with that of Civiale. Great credit is due to this latter distinguished surgeon; and we speak within bounds when we say, that he has done more than any other man to make the operation of Lithotripsy practicable.

Much has been said calculated to deprive him of his well-earned reputation; but although he may have borrowed ideas (and what inventor does not), yet, for his great dexterity and untiring perseverance, he is justly entitled to be called the father of the operation.

Civiale's instrument which was first applied in 1824, differed from the instrument of Le Roy in this: the rod had a crowned shaped termination larger than the rod itself, and therefore destroyed the stone more rapidly; and it had, in addition, a screw near the handle, by which, when the forceps had grasped the stone, it was fixed and held in position.

CIVIALE'S INSTRUMENT.



I have used this instrument and found it well adapted to some cases. Civiale himself, has applied it successfully in a great many instances : but there are some objections to its use, which are more readily understood by those who have used it, than they can be explained. It is more complicated, and is not easily introduced into the bladder in some cases. It is important that as little pain as possible should be given at each operation. There are some stones that it will not grasp readily ; and I think its use is more apt to

* *a* Closed. *b* Open. *c* Winch.

bring on inflammatory symptoms than the percuteur. Nevertheless, I have seen Civiale use it with such dexterity and success, that I was unwilling myself, for a good while to give it up. However, I have latterly abandoned it for one or the other of the following instruments, using each as I find it adapted to the case.

I now use JACOBSON'S instrument, or that of BARON HEURTELoup. Jacobson's is applicable in children, or to those adults in which the stone is small.

JACOBSON'S INSTRUMENT.



But the instrument which is most universally applicable, is that of Baron Heurteloup. This instrument is simple in its construction; it is easily introduced, and can be carried with great facility into almost any part of the bladder. It can be made to grasp stones of any shape, and almost any size; and when the stone is soft, it may be broken by the pressure of the hand; or when it is hard, the hammer can be used. Any stone will yield to this force, when the blows are struck in quick succession for a length of time. When the stone is broken, small pieces are often brought away in the instrument; though this is hardly necessary, for the bladder will generally expel every particle that is small enough to pass through the urethra; and here I may remark, so well do patients know the presence of stone, that they will tell you when the last piece comes away.

HEURTELOUP'S PERCUTEUR.



I have thus given a brief and concise statement of the principal instruments which have been concerned, and are used in the operation of Lithotripsy. It might be interesting, but it certainly would be useless, to recount the different modifications of Civiale's and Heurteloup's instruments, made by themselves and their followers—for I have never yet found a case which admitted of the use of Lithotriptic instruments, in which one of the three which are

figured might not be employed; and that with greater advantage, than any other instruments which have been invented. They are the simplest—cover the whole series of cases in which Lithotripsy is applicable—are the most easily used, and are in every respect the best.

CASES IN ILLUSTRATION OF THE APPLICATION OF LITHOTRIPSY.

I wish now to call the attention of the reader to the applicability of Lithotripsy to the cure of stone, and the safety of the operation. I give the following cases, for the purpose of showing what kind of cases are, and what are not within the reach of Lithotripsy.

CASE I.

Mr. M., 35 years of age, a native of Louisiana, applied to me with all the symptoms of stone, under which he had been laboring for about three years. He was generally confined to bed once a month, for two or three days, with fever, pain over the region of the pubis, scalding urine, constant desire to urinate, &c. I sounded him, and found a stone about an inch in diameter. Next day he had an aggravated attack, which lasted for a week. I put him upon aperients and diluent drinks for two weeks. Having thus allayed the irritation, I passed the percuteur, grasped the stone, but did not break it. I waited two or three days, and finding no increased irritation, I introduced the instrument, grasped and broke the stone.

He passed several small pieces of an uric acid calculus.

In three days I again introduced the percuteur, and broke the stone a second time without his complaining of any pain. I finished the case at three more sittings, two days intervening, and on the twelfth day he told me he was entirely relieved. He did not complain of pain at the sittings, and walked about as usual during the whole time. I sounded him, and found that all the stone was removed. I could detail several similar cases; but this will give a correct idea of an ordinary case that has not been of very long standing.

CASE II.

Mr. G., aged 30, a clerk in a store in Pearl-street, called on me and informed me, that about a year ago he had an attack of inflammation of the kidneys, which had confined him to his bed for several days, and that it had been subdued by active depleting remedies. I asked him if the pains had been in his groin and around the abdomen. He said that it had, and was very violent. Since that time, he had occasionally suffered from pain in passing his urine, and latterly he had seen a glairy mucus in his urine, and had been troubled with frequent desire to urinate. I introduced a percuteur, grasped and broke a small stone. It passed out that day, and he has not been troubled since.

CASE III.

Mr. R., aged 20 years, a resident of this city, had suffered from symptoms of stone for eight or nine years, called in Nov, 1842. I sounded and found a stone with

difficulty; upon sounding frequently afterwards (which I am in the habit of doing when there is any obscurity). I discovered that the stone was in a cavity of the bladder which contained no urine, so that when I wanted to inject the bladder, or draw off the urine, I had to pass the catheter further into the bladder, and through a different opening from that communicating with the stone. I also found that the catheter rarely touched the stone. There was but one testicle in the scrotum, and that was fully developed; therefore, I concluded that the other, instead of passing out of the ring, might have fallen upon the bladder, and produced some irregularity in the shape and muscular contraction of that organ, which modified its functions and form; for there seemed to be two cavities, one up behind the pubis containing the stone, and the other lower down and further back, containing the urine, with a kind of hour-glass contraction between them. I might here observe, that this case had been seen and sounded by several distinguished professional men, and had been placed on the table for Lithotomy by one of them; but owing to some uncertainty as to the existence of the stone, the operation was postponed. After a series of efforts, and having prepared instruments of different shapes and lengths, I succeeded in grasping and breaking the stone. I made, in all, four or five unsuccessful efforts, and three successful ones. After the last, all the remaining parts of the stone came away. One piece was very large.

This calculus was of the Mulberry species, very hard and about an inch in one diameter, and a half inch the other. Two very great difficulties presented themselves in this case; one was the stone being in a cavity without a fluid surround-

ing it, and in contact with the bladder, or sack containing it, which made it very difficult to get the instrument around it; yet by very careful manipulation, I accomplished it without producing any perceptible inflammation. The other difficulty was, the position of the stone, requiring an instrument of longer grasp: this rendered the operation still more difficult.

CASE IV.

Mr. B., aged 48, a shoemaker, has been troubled for eight or nine years, with difficulty in passing his urine, and other symptoms of stone. He has been under the treatment of a variety of quacks, for a variety of diseases. Upon sounding, I found a large stone and great irritability of the bladder, is was contracted so close to the stone, that he could not retain his urine longer than a few minutes. I could not inject more than a half-gill of water into it. He was very much emaciated, and his urine contained a large quantity of muco-purulent matter. Upon introducing the percuter, I found that the stone was so large, and the space between it and the bladder so small, that it required very careful manipulation to grasp it. I succeeded in getting hold of the side of it, and breaking a portion of it off. The stone was two inches in its longest diameter. It required twenty essays to remove it entirely; but each time he was better, and his general health improved. He came every other day a mile, to be operated on, and no essay was more painful than the ordinary passage of his urine. His general health is entirely restored, his bladder has assumed its natural functions, and he is now working at his trade.

CASE V.

Mr. A., aged 89, had been suffering from an affection of his bladder and kidneys for 40 years. I sounded him, and found the prostate gland very much enlarged, the bladder thickened, the third prostate, as it is called, was enlarged, and had been perforated by a catheter; so that when the instrument was passed through that canal into the bladder, it could not be moved about with any freedom: but I found that by moving the point of the instrument carefully to one side, before entering the bladder, I could feel several stones. There was a stricture two and a half inches from the glands-penis, which would not admit an instrument larger than No. 6. I dilated the stricture in about two weeks' time, so that I could introduce No. 10. With this I broke one stone, and the same day a very considerable quantity of detritus passed. In ten or twelve days I broke up the remaining calculi. There was some difficulty in the passage of a few of the larger fragments through the strictured portions of the urethra; but these, with a little assistance, were extracted, and he was relieved from pain. Very little pain and no inflammation followed any of the essays, and at each he came regularly to my office, attending in the intervals to his usual avocations.

CASE VI.

Mr. G. brought his son, aged 6 years to me. He had suffered from symptoms of stone from his birth. I sounded him, and found one. His health otherwise was good. I placed this boy upon a table which I use in performing this operation upon children, bound him firmly to it, and in three essays broke the stone, so that its detritus passed

though with a good deal of pain. After the stone was broken, he was in greater pain until the ditritus passed than he was before the operation. I have observed that in children, as soon as the stone is broken, the efforts of the bladder to expel its fragments is so great, as to lead to the belief that inflammation of the bladder has been produced. However, the pain is ended as soon as the fragments all pass away.

I could detail here a number of other cases, but I have already given some of the best and most easy of management, and likewise some of the worst and such as presented the greatest obstacles to the performance of the operation. Some of these cases occurred in this city, and were seen during the whole progress of their treatment by several of our most eminent surgeons. I should be most happy to afford an opportunity to any who are desirous of satisfying themselves by personal knowledge of the efficacy of the treatment in these cases. This would give an additional pleasure from the fact that some surgeons have doubted the practicability of the operation.

There are, on the other hand, some cases where Lithotripsy cannot be applied. I will detail one :

Mr. L., from an unhealthy district in Georgia, brought a son of his, aged 4 years, to this city, to place him under my charge for the performance of Lithotripsy. The child had suffered very seriously in his health from the fevers in his locality. He was the subject of occasional epileptic convulsions. I sounded him, and after several unsuccessful efforts, I grasped and broke a stone. A

good deal of broken calculus passed away, and in a few days he was seized with convulsions. These were so severe, that he did not recover from their effects for several weeks. They did not seem, however, to have any direct connexion with the disease or the operation. After a few more unsuccessful essays, I broke the stone again. Soon after this he had another fit, from which he was a long time in recovering. He, however, rallied from this, but only to be attacked by inflammation of the bowels. He got over this, but his pain in urinating became so distressing, and his general health seemed giving way so fast, that I determined to cut him. I performed the operation, and found two large stones entire, and a third one broken, but in pieces too large to pass. I had great difficulty in saving this patient; there was so much constitutional debility, that hectic fever sat in: the wound looked flabby, and gaped open. He, however, recovered under the use of stimulant and tonic treatment. I am unable to detail all the difficulties in this case in the order and succession that they presented themselves, for it was a long time on hand, and I kept no notes of it; but there were two which were very serious: one was, that whenever I introduced the instrument, or a piece of stone attempted to pass the urethra, the penis became erect. This, of course, added to the pain of every passage, either of the instrument or of a fragment. Another was, that he had the power of emptying the bladder alongside of the instrument when introduced, making it very difficult to grasp the stone. The urethra was so small that I had to introduce Jacobson's instrument.

CASE VIII.

Mr. C., aged 50, applied, with all the symptoms of stone. He was so much debilitated that he could not walk. He had a cough with muco-purulent expectoration. The discharge from the bladder contained more pus than urine. His viscus was so irritable that he could scarcely bear the presence of a sound. I endeavoured to allay this irritability and improve his general health, but I could not succeed. He prevailed upon me to cut him, which I did, after my telling him that there was not more than one chance in a hundred of success. He chose to take that chance. I extracted a large stone in a very short time, without the loss of much blood. But his system could not re-act, and he died on the third day after the operation.

I could give other cases in which I have cut for stone since I have practised Lithotripsy, but I think and I believe I can advance testimony to bear me out in the assertion, that with my present knowledge and experience with the instrument, there are few cases in which I cannot break the stone. I base this declaration upon what is well known, an extensive experience in the treatment of calculous affections.

From the results of these cases it may be stated,

1st, That every person labouring under stone can be cured without risk of life, provided they apply at an early stage of the disease, and in the case of young children when they have not more than one stone.

2d, That Lithotripsy as at present practised, does away to a great extent with a bloody, and in all cases, dangerous operation.

3d, That it gives but little pain, and does not interfere with the avocations of the patient. It is certainly beyond dispute that it is a great improvement in surgery, giving easy relief to a large class of patients who have heretofore been doomed to linger out a life filled with torture, or submit to the hazardous ordeal of Lithotomy.

It might be thought necessary that I should go more particularly into the comparative merits of the two operations, Lithotomy and Lithotripsy; but as this work is only intended for general distribution, I can only say this, that Lithotripsy is adapted to all cases if the person applies in the early stage, except in very young children with large or numerous stones; and I hope the time will soon be when our philanthropic citizens will see the necessity of either building up an institution for the relief of patients with this disease, or of establishing a ward in the already built hospitals for this object. Subjoined is a table to show the uncertainty of Lithotomy; and also an outline of what some distinguished gentlemen of England are doing in this matter.

COMPARATIVE TABLE

OF CURES AND DEATHS AFTER LITHOTOMY, DRAWN FROM
THE PRACTICE OF SEVERAL SURGEONS IN PARIS.

Sex.	Time of Life.	Number of patients operated on,	Number of Deaths.	Number of Cures.	Proportion between the number of deaths and the number operated.
	years.				
Males	from 1 ^{to} 10	37	2	35	1 in 18 1-3
	10 20	17	1	16	1 17
	20 30	7	2	5	2 7
	30 40	7	2	5	1 3 1-2
	40 50	4	1	3	1 4
	50 60	5	4	1	4 5
	60 70	6	6	0	6 5
	70 80	2	1	1	1 2
Females	from 10 ^{to} 20	1	0	1	0 in 1
	30 40	1	0	1	0 1
	40 50	2	0	2	0 2
Total	from 1 ^{to} 80	89	19	70	19 in 89 or 1 in 4 2-3
Male persons ..	from 1 ^{to} 80	85	19	66	19 in 85 or 1 in 4 1-2
Female persons	from 10 ^{to} 50	4	0	4	0 in 4

LITHOTRIPTIC INSTITUTION.

Patron—HIS ROYAL HIGHNESS THE DUKE OF SUSSEX. *President*—JOHN IRELAND, D.D., DEAN OF WESTMINSTER *Vice-President*—SIR CHARLES R. BLUNT, BART., M.P.

John Bowden, Esq.; Benjamin Bransfill, Esq.; Timothy Bramah, Esq.; C. Barry Baldwin, Esq., Treasurer; Rev. Dr. Crombie, L.L.D. F.R.S.; Sir Richard Dobson, M.D.; Admiral Donnelly; George Goodwin, Esq.; Benjamin Hawes, Esq.; General Morris; Charles Morris, Esq. Jun.; Cosby Nesbitt, Esq.; Jeremiah Olive, Esq.; Michael Shepley, Esq.

THIS Institution is established to form a school where Lithotripsy may be learnt and perfected, at the same time as the inexpressible relief is extended to the poor suffering from the dreadful disease of the stone; no circumstance being more to be

lamented—none calculated to make the indigent feel in a more agonizing degree the inequality betwixt their lot and that of the privileged opulent classes, than the necessity of submitting, for want of pecuniary means, to the infliction of the knife, where the case does not require it.

If the confidence of the Committee, in the resources of the Art of Lithotripsy, gave them the best hopes at the first onset, how much greater is their feeling of triumphant congratulation now; the medical officer of their Institution having demonstrated in an irrefragable manner the success of the operation of Lithotripsy, in the presence of numerous eminent Surgeons at the Royal Hospitals of Greenwich, Chelsea, Chelsea Military Asylum, St. Bartholomew, London, Westminster, Nottingham, Derby, Colchester, and also at the London University. This public testimony is corroborated by the evidence of extensive practice, which has signally proved the inestimable benefits of the Lithotriptic operation and justifies its classification among the greatest blessings which professional science has conferred upon mankind.

Donations and Subscriptions in support of the proposed Institution, amounting to \$15,000, have been notified to the Provisional Committee.

The Committee subjoin the following testimony contained in a Letter from His Royal Highness the Duke of Sussex :

“The great importance of the object you have in view has induced me, as a duty I owe to the public, to institute very minute inquiries into the real merit and utility of the invention of Lithotripsy before I could consent to your request that my name should be inserted as Patron of the Lithotriptic Hospital. I am much gratified in stating, that the result of these investigations is highly satisfactory. I have received the public testimony of some of the most eminent Surgeons of this metropolis as to their opinion of the value of the new method of alleviating one of the most dreadful afflictions to which humanity is liable, both as regards the disorder itself, and the painful and hazardous operation which alone has hitherto afforded any rational hope of perfect and permanent cure. This opinion is, I am happy to say, amply confirmed by the certificates which you have shewn me, from several of the most distinguished Surgeons in London, as well as by the testimonials which the professional gentlemen of the Hospitals of Greenwich and Chelsea have given, and likewise by the approbation communicated from the medical officers of the public establishments of Nottingham and Derby, to which latter I have paid particular attention, on account of the prevalence of that unfortunate complaint in those counties.

“Thus armed, I feel myself justified, and have great pleasure in becoming Patron of the Lithotriptic Hospital; and with my warmest wishes for its prosperity, and that you may live to see it become the basis of a new and important school.”